

## Preface

There is currently a recognition of the importance of the stories of individual scientists (outside the pantheon of giants and leading discipline figures) in building the history of science. Such individuals are unique men and women of outstanding ability, drawn from different countries and backgrounds, some of whose personal trajectories may move outside the practices and paradigms of established disciplines, and who, as researchers and experimenters, can prove to be significantly ahead of their time.

This recognition has also derived from the fact that, in addition to the traditional theme of the great men of science, another trend has developed in the writing of the history of science in the last two decades — that of a strong focus on science in its social context, on the constructed nature of scientific knowledge and on a sociological emphasis that has tended to edge out the creative, individual, self-determining life in science.

In recent years, however, Danish historian and science biographer, Thomas Söderqvist, has offered a cogent and timely argument for recovering the life story of ‘the freely acting, creating, self-motivating, individual scientist’, who, he believes, has become ‘a much-neglected figure’ in the social reconstruction of science. Their biographies, he suggests, could provide an illuminating set of exemplars of ‘the existential projects of individual scientists’, ‘the individual’s struggle for existential authority’, and furnish a genre that would enrich our understanding and interpretation of the diverse, complex, yet essentially personal pathways in the life of science. In this way, he contends, science biography ‘can provide us with stories through which we can identify ourselves with other human beings who have chosen to spend their lives in scientific work’.

Söderqvist also signals some refreshing new approaches in science biography which are especially relevant for those who, increasingly in our technological era, leave scant documentary evidence for the biographer. ‘Multi-genre narratives, unexpected time-shifts,

interventions', he advises the prospective biographer, 'poetical reconstructions, polyvocal texts ... Take risks!'<sup>1</sup>

José Enrique Moyal fits firmly into Söderqvist's frame. Born in Jerusalem in 1910, during the last decade of the Ottoman Empire's rule in Palestine, he belonged to no particular nation though with his soft, deep, and slow diction, he deemed himself an Israeli. 'Listen to any Israeli diplomat or politician on the television', he would say, 'anyone who spent some time in England and you will hear that Israeli voice, in my case, overlaid slightly by French.'

Intrinsically and by fortune he was a maverick, an independent person, an 'individualist' as the Oxford English Dictionary Supplement defines it, 'unorthodox' or 'an unbranded animal' (the term drawn originally from America's cattle country). Through a long and complex life, he had journeyed and worked across the world, always with an air of difference and independence until, in May 1998, he died in Canberra a few months short of his 88th birthday.

He has been celebrated as 'one of Australia's most remarkable thinkers'. 'Professor Moyal's interests', ran the Citation of Doctor of Science, *honoris causa*, conferred by The Australian National University upon him in 1997, 'are extremely broad: he is an engineer who made a fundamental contribution to the understanding of rubber-like materials, a mathematical physicist who originated the "Moyal bracket" in quantum mechanics, and a mathematical statistician responsible for the early development of stochastic processes ... Finally, he is a versatile mathematician who has researched the foundations of quantum field theory. In each of these fields, he is a thinker of the first rank ... He is one of a diminishing breed of mathematical scientists working in a broad range of fields in each of which he has made fundamental advances'.

In his lifetime and, most notably, since his death, his classic paper, 'Quantum Mechanics as a Statistical Theory' (1949), has made a profound contribution to an array of scientific fields and underpins a range of contemporary technological developments. It was research that led him into a long and illuminating correspondence with the celebrated British

physicist, Professor P.A.M. Dirac, which is reproduced in full in an Appendix.

Mathematician, physicist, and statistician, J.E. Moyal (Joe or Jo as he became generally known) completed his career as Professor of Mathematics at Macquarie University in Sydney where the J.E. Moyal Medal and Lecture, established at the University in 2000 to confer an award in consecutive years in statistics, physics, and mathematics, commemorates the diversity of his work.

## ENDNOTE

<sup>1</sup> Thomas Söderqvist, 'Existential projects and existential choices in science: science biography as an edifying genre', in Michael Shortland and Richard Yeo (eds), *Telling Lives in Science. Essays on Scientific Biography*. Cambridge University Press, 1996, Chapter 1, pp. 45-84.